REMARKS

Claims 1-9 are pending and stand rejected.

Claims 1-6 stand rejected, and claims 7-9 are withdrawn.

35 U.S.C. §§102(b)/ 103(a)

Jadamus et al

Claims 1 and 3-6 stand rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Jadamus et al, US 6,090,459. The '459 reference fails to teach all of Applicants claim elements and limitations, and therefore fails to present a *prima facie* case of anticipation or obviousness. Specifically, Applicant claims a composition of a polyamide/polyolefin blend, while the '459 patent teaches a multilayer plastic in which the inner layer may be a polyamide, polyolefin, polyester or fluoropolymer. The polyamide may be impact modified with an ethylene-propylene copolymer (Col. 3, line 9).

The '459 teaches a multiplayer plastic in which the inner layer may be a polyamide, polyolefin, polyester or fluoropolymer. The '479 reference does not teach or suggest blends of a polyamide and a polyolefin. When describing a polyamide layer, the '459 reference notes that the polyamide may contain up to 40% of other suitable thermoplastics including polycarbonate, acrylonitrile/styrene/butadiene copolymers, acrylonitrile/styrene/acrylate copolymers, acrylonitrile/styrene copolymers, or polypropenylene ethers. (Col. 2, line58 to Col. 3, line 6). Note that a polyolefin, or anything resembling a polyolefin are taught or suggested!

Likewise, when describing the use of a polyolefin as the inner layer, the '459 reference describes polyolefins and copolymers of polyolefins only, and NO Blends. (Col. 3. lines 24 – 48).

Both the polyamide and the polyolefin layers in the '459 reference may be impact modified with standard impact modifiers. As one in the art would understand, the use of small amounts of impact modifier particles is in addition to, and very different from, the polymer blend. Thus a polyamide that may be impact modified with a polyolefin-containing impact

modifier IS NOT the same, nor would it teach or suggest to one in the art, a blend of a polyamide and a polyolefin as the polymer blend.

All examples in the '459 reference describe polyamide or polyester layers - none being blended with any other thermoplastic resin, and none containing impact modifier. The Examples contain NO Blends of any kind, and show no use of polyolefins – thus clearly not teaching or suggesting any blend, much less a blend of a polyamide and polyolefin. The Examples instead Teach Away from Applicant's claims. One in the art would find no teaching or suggestion in the '459 reference to inspire one to arrive at Applicant's claims.

Since the '479 reference failed to recognize a polyamide/polyolefin/nanotube combination, as result effective, this property could not be optimized by routine experimentation. There is no teaching or suggestion in the '459 reference of the advantage Applicant has found that the nanotubes concentrate in the polyamide – allowing for the use of fewer nanotubes in the over-all thermoplastic for the same antistatic properties. Since the nanotubes concentrate in the polyamide, the polyamide/nanotube concentration providing the antistatic properties is the same as a much larger loading of nanotubes is a pure polyamide layer - making the product less expensive. The result is that a lower level of carbon nanotubes is required in the blend, than in either a pure polyamide, or a pure polyolefin, for the same antistatic properties.

Dupire

Claims 1 and 3-6 stand rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,331,265 (Dupire et al). As, stated in Applicant's previous responses, the '265 reference fails to teach all of Applicants claim limitations, and therefore fails to present a *prima facie* case of obviousness. Specifically, Applicant claims a composition of a polyamide/polyolefin blend containing carbon nanotubes, while the '265 patent (to Applicant Company) teaches a method using only a single polymer matrix.

The Examiner's premises that the total amount of polymer matrix and total amount of nanotubes used in the composition comprising the polyamide/polyolefin combination would be the same as in the composition comprising either polyamide or polyolefin alone. In deed this is the aspect in which Applicant's results were unexpected and unobvious. Applicant has found that the nanotubes concentrate in the polyamide – allowing for the use of fewer nanotubes in the over-all thermoplastic for the same antistatic properties. Since the nanotubes concentrate in the

polyamide, the polyamide/nanotube concentration providing the antistatic properties is the same as a much larger loading of nanotubes is a pure polyamide layer - making the product less expensive. The result is that a lower level of carbon nanotubes is required in the blend, than in either a pure polyamide, or a pure polyolefin, for the same antistatic properties. In other words, the polyolefin serves to dilute the total amount of polyamide – yet since the nanotubes concentrate in the polyamide the polyamide/nanotube concentration remains about the same as for pure polyamide. With less overall polyamide, a fewer nanotubes are required in the total polyamide/polyolefin blend to maintain the polyamide/nanotube concentration – providing a less expensive means of providing a similar level of antistatic properties.

The advantage found in the present invention can be seen in Figure 1 of the application. At the same loading level of carbon nanotubes, the polyamide/polyolefin blend has a significantly lower resistivity (better conductivity) than a pure polyamide. At a loading level of 4% nanotubes the pure PA- had a Resistivity of about 10^{13} while a 4% loading of nanotubes in the PA/PO blend had a resistivity of about 10^{9}. At 6% nanotube loading, the PA-6 had a Resistivity of about 10^{10} – still not as good as the 4% loading in the PA/PO blend. This shows that the polyolefin/polyamide blend of the invention provides a better anti-static effect at a lower loading than in PA alone - an unexpected and certainly not an additive effect. The effect of the blend is not obvious and is not taught or suggested by either cited reference.

Since the cited reference fails to present a *prima facie* case of obviousness over the claims as amended. Applicant believes that the reasons for rejection have been overcome, and the claims herein should be allowable to the Applicant. Accordingly, reconsideration and allowance are requested.

Respectfully submitted,

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